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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,343	05/15/2001	Steven Wayne Smith	DP6760 US NA	8850

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E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
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WILMINGTON, DE 19805

EXAMINER

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

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DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,343

Applicant(s)

SMITH ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 15-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14, drawn to a melt spinning apparatus, classified in class 425, subclass 104.
 - II. Claims 15-22, drawn to a melt spinning process, classified in class 264, subclass 130.
 - III. Claims 23-26, drawn to filaments/yarn, classified in class 428, subclass 364.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by another and materially different apparatus such as an apparatus including a finish applicator comprising a tapered roller and a finish bath.
3. Inventions I and III are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this

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case, the product as claimed can be made by another and materially different apparatus such as an apparatus including a finish applicator comprising a tapered roller and a finish bath. The product as claimed can also be made by another and materially different apparatus such as an apparatus including an extruder/die for extruding a film, a cutter for longitudinally slitting the film to form fibers and a finish applicator.

4. Inventions II and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another and materially different process such as by a process including the steps of extruding a film, longitudinally slitting the film to form fibers and applying finish to the fibers.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Charles E. Krukiel (by Examiner Tentoni, GAU 1732) on May 5, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

8. The information disclosure statement filed 8/30/01 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP 609. It has been placed in the application file and the information referred to therein has been considered as to its merits.

9. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

10. Claims 1 and 2 are objected to because of the following informalities: a) currently the end of claim 1 and the beginning of claim 2 exist on the same line, making the distinction between the claims unclear, the claims must be resubmitted with all claims clearly starting on different lines. Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Linz (5,536,157).

Linz teaches a finish applicator (Fig 1, #6) having a base plate having a peripheral edge which corresponds to the cross-section of the filament array (Fig 1, #6) and a body portion having a top and bottom concentric therewith and connected to said base plate (Fig 1, #5"), wherein the bottom corresponds in shape to the shape defined by the peripheral edge of the base plate, and the surface formed by a plurality of lines drawn between the top and the bottom tapers outwardly with respect to the direction of movement of the filament array; a peripheral deliver slot (Fig 1, #10); the peripheral delivery slot communicates with a peripheral fiber contact surface (Fig 1, #6) on an outer surface of the body portion; a arm having channels for delivery and drainage of the finish (Fig 1, #11), wherein the arm supports the applicator and further wherein the arm is connected to the peripheral delivery slot; and the applicator is mounted on a linear motion device.

13. Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kagi et al (DE19800636).

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Kagi et al teach an applicator (Fig 4) having a base plate having a peripheral edge which corresponds to the cross-section of the filament array and a body portion having a top and bottom concentric therewith and connected to said base plate (Fig 4), wherein the bottom corresponds in shape to the shape defined by the peripheral edge of the base plate, and the surface formed by a plurality of lines drawn between the top and the bottom tapers outwardly with respect to the direction of movement of the filament array; a peripheral deliver slot (Fig 4, #5); the peripheral delivery slot communicates with a peripheral fiber contact surface (Fig 4) on an outer surface of the body portion; an arm having channels for delivery and drainage of the finish (Fig 4, #2), wherein the arm supports the applicator and further wherein the arm is connected to the peripheral delivery slot; and the applicator is mounted on a linear motion device.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-4, 6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linz (5,536,157) in view of any of Vassilatos (4,687,610), Schilo et al (5,612,063) or Knox (4,156,071).

Linz teaches the apparatus as discussed above. Additionally Linz teaches a melt spinning apparatus (Fig 1) having a spinneret having a plurality of capillaries (Fig 1, #1); a polymer delivery source which is arranged to communicate with the spinneret and deliver molten polymer therethrough to produce a continuously moving array of molten polymeric filaments corresponding to the arrangement of capillaries in the spinneret (Fig 1); a quench zone (Fig 1, #14) positioned below the spinneret and arranged to receive and cool the array of molten filaments as they move therethrough; the finish applicator being a conical-shaped finish applicator and located below the quench zone; the base plate has a peripheral edge which corresponds to the cross-section of the array of moving molten filaments; a means for moving the finish applicator into and out of the array of filament (Fig 1, #11); the finish applicator has one or more peripheral finish

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delivery slots that communicates with a peripheral fiber contact surface (Fig 1, #6); the finish applicator is positioned a distance ranging from 200 mm to 400 mm below the quench zone (col 6, lines 17-26); and the array of the filaments being annular have an inner and an outer filament array diameter that determine the diameter of the finish applicator in a range of 70% to 120% of the outer filament array diameter (Fig 1).

Linz fails to teach the quench zone being a radial arranged to cool by passing a cooling gas inward with respect to the array of moving filaments.

Vassilatos teaches a spinneret with a radial quench zone (Fig 1, #50 and #55) arranged to cool by passing a cooling gas inward with respect to the array of filaments for the purpose of uniformly distributing gas (col 2, lines 22-25). Knox teaches a spinneret with a radial quench zone (Fig 1, #11) arranged to cool by passing a cooling gas inward with respect to the array of filaments for the purpose of symmetrically introducing cooling air around the filaments (col 13, lines 53-61). Schilo et al teach a spinneret with a radial quench zone (Fig 2, #13 and #14) arranged to cool by passing a cooling gas inward with respect to the array of filaments for the purpose of uniformly solidifying filaments (col 3, line 56 - col 4, line 26).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Linz with a radial quench zone arranged to cool by passing a cooling gas inward with respect to the array of filaments as taught by a) Vassilatos because it uniformly distributes the cooling gas; b) Knox because it symmetrically introduces cooling air around the filaments and c) Schilo et al because it uniformly solidifies the filaments.

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18. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linz (5,536,157) in view of any of Vassilatos (4,687,610), Schilo et al (5,612,063) or Knox (4,156,071) and further in view of either of Stibal et al (4,756,679) or Kyocera Corp (JP 10-77522).

Linz, Vassilatos, Schilo et al and Knox teach the apparatus as discussed above.

Linz fails to teach the finish applicator having a filament contact surface coated with ceramic oxide.

Stibal et al teach a filament deflector (Fig 1, #11) coated with ceramic (col 4, lines 54-65) for the purpose of avoiding the tendency of filaments to adhere to the apparatus. Kyocera Corp teach finish applicator (Fig 1(A), #12) made of ceramic for the purpose of reducing sliding friction.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Linz with a filament contact surface coated with ceramic as taught by either Stibal et al or Kyocera Corp because it reduces the friction/ adhesion of filaments to the apparatus body.

Allowable Subject Matter

19. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest a finish applicator for a spinneret, that is below a quench zone and only positioned a distance ranging from 120 mm to 200

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mm below the spinneret, wherein the applicator has a base plate and a body portion connected to the base plate, wherein the surface formed by a plurality of lines drawn between the top and bottom surfaces of the body portion tapers outwardly with respect to the direction of movement of the filament array.

References of Interest

21. Japanese Patent 7-118912, Schwarz et al (5,866,055), DE10105440 and Maas et al (US2002/0119210A1) are cited of interest to show the state of the art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (703) 308-6295. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non-after finals and (703) 872-9311 for after finals.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Joseph S Del Sole

J.S.D:
May 15, 2003



ROBERT DAVIS
PRIMARY EXAMINER
GROUP 1300-1722

5/15/03